Editorial

(Re)Searching learning across contexts: Conceptual, methodological and empirical explorations

Introduction

Efforts to understand the dynamic processes of learning situated across space and time, online and offline, are presently challenging traditional definitions of learning and education. Digitalisation and expanded practices of learning that stretch across space and time are resulting in significant changes in young people's learning practices and ecologies (Erstad et al., 2016). Here, formal education is loosing much of its control over information and knowledge available to learners (Hillman and Säljö, 2016). The consequences of such changes to the practices and outcomes of learning, including the development of values, skills and identities, clearly deserve closer examination and explanation. Not only is this a pragmatic challenge, that is, how to trace learners across physical contexts but also very much a conceptual and methodological one. This entails how to conceptualize and operationalise the "context" of learning.

This theme issue is devoted to addressing conceptual, methodological and empirical questions surrounding educational research on investigating learning across contexts in contemporary tool-rich and expanded settings. It will introduce a set of empirical studies that all focus on researching learning as a complex phenomenon that stretches across space and time, beyond the here and now. All the articles will also direct attention into the role of material artefacts, such as new digital technologies in creating hybrid learning contexts that transform learners' interactions and engagement across artifacts, participants and time-space contexts. In these studies the authors introduce their conceptual and methodological frameworks in defining 'a learning context' and how this framing has guided their inquiries into analyzing and understanding learning in young peoples' learning lives in formal educational settings and beyond.

In their article *Authenticity, Agency and Enterprise Education – Studying Learning in and Out of School* Øystein Gilje and Ola Erstad analyse enterprise education as an interesting case of a cross-curricular programme that tries to facilitate authenticity and authentic learning as well as agency among students beyond the traditional formal school context. They investigate how five young female students worked with an environmental product for seven months in a mini-company as they moved between school and other settings as part of their project in enterprise education that promote real-life applications of knowledge. The study illustrates how one particular idea in enterprise education develops over time in an open-ended task that results in a product, which relates to a real world practice (being an entrepreneur). The findings demonstrate the value of following learners and artifacts across contexts and time in informing educational research about how identity and learning are brought together by students' engagement in their activity and about the relationship between the learner and the context.

Drawing on Bakhtin's theory on dialogical self-making the article *iBecome: iPads as a tool for self-making* co-authored by Katherine McLay, Peter Renshaw and Louise Phillips argues for the importance of conceptualising learning not only as an epistemological endeavor but also ontological and ideological. In doing so the authors direct our attention to learning beyond mere mastery of knowledge and skills to how students' identities shift and transform in response to various mediating influences across space and time. Adopting a reflexive microethnographic research approach, the study portays an in-depth analysis of one student and shows how this student negotiated and traversed the challenges of relational self-making, both in relation to iPads and to others. Overall, the study demonstrates how the dialogic self theory can capture the fluid nature of students' identity work, as students take up and use digital tools as mediational means in their knowledge-making as well as self-making at school and beyond.

The article *Heterochrony through moment-to-moment interaction: A micro-analytical exploration of learning as sense making with multiple resources* by Ingvill Rasmussen and Crina Damşa illuminates the challenges and their overcomings in

students' learning activities characterised by the use of various digital tools and navigation across physical and virtual contexts. Namely, the study draws on two empirical settings situated in history learning in a secondary school and web development in a computer engineering course. The authors deploy the concepts of participation trajectories, emergence and heterochrony to operationalise learning as sense making, and taking account of its temporality. The findings of the study make visible the demands multiple resources and their meanings pose for students' participation and learning. They also show how taking initiative and solving problems together can overcome some of these challenges. In sum, the study points out the value of temporal micro-analytic investigation in understanding long-term shared learning processes across participants, materials and contexts.

In their article *Negotiating time-space contexts in students'technology-mediated interaction during a collaborative learning activity* co-authored by Kristiina Kumpulainen and Antti Rajala build on the notion of the chronotope to investigate how students create and manage time-space contexts in their technology-mediated interactions during a creative collaborative learning activity. Drawing on a dialogic approach, the study defines chronotopes as socially constructed time-space configurations with a specific narrative character that represent cultural practices and values, and that operationalize the framing of the interactional situation and its actors. The empirical data derive from a case study of elementary school students' technology-mediated interactions while collaborating in writing a school musical script. The findings show how chronotopes offer a useful conceptual heuristic for researching the creation and management of often contradictory time-space contexts in students' technology-mediated interactions intertwined with institutional, relational, and personal spheres of activity.

In their article *The Embodied Rhythms of Learning: From Learning Across Settings to Learners Crossing Settings* co-authored by Kevin Leander and Ty Hollett argue that while research literature on learning across contexts has emphasized connections or networks of learning and brought in a spatialized perspective to learning, less attention has been paid to the human time-geography of learning. That is, the time-space experiences of learners as they move. In specific, the authors elaborate on the embodied temporal perspective of learning and in doing so challenge conventional accounts of researching learners across settings that often disregard how temporality "feels" and affects the learner's embodied activity. The approach advocated here focuses thus on "learner's body crossing settings" rather than "learning across settings." The authors operationalise their arguments and methodology via illustrations from empirical research, in which rhythmic and other temporal perspectives are taken up as a means to "feel" alongside or attune to the bodies of learners. These temporal aspects are considered for their qualities relevant to learning opportunities, identification, and affective charge.

In his article *Representing learning lives: what does it mean to map learning journeys?* Julian Sefton-Green critically analyses vocabulary commonly used to make sense of learning across contexts and overtime. He points out how this vocabulary is often spatial in origin and metaphorical in application. Thus, representing learning depends on narration, its form and frame. Drawing on empirical studies of young people's progression into a digital creativity represented via diagrammatic maps of young creatives learning lives as well as the author's ethnographic study of 13–14-year-olds, the article explores what it means to 'map' learning at a conceptual level across dimensions and domains. It also asks whether other kinds of representation than narrative actually allow us to understand the processes of learning over time and space in different ways. Overall, the article gives a meta-perspective for the field of learning across contexts, mapping methodologies and learning journeys. It reflects on the hidden assumptions and values in what is written in this field: as charting learning, which are more concrete and practical ways of representation, as narrating learning, which are more conceptual elaborations, and as mise en scene/habitus, which are more theoretical speculations. The article ends by considering the meaning and value of mapping representations in the current of connectionist orientation,

Our special issue ends with a commentary by Judith Green, Jenna Joo, Yun Dai, Tijana Hirsch, Monaliza Chian and Priscila Barros David who reflect on the challenges in understanding different epistemologies for studying learning and learning contexts in the complex and dynamic world of the 21st Centry. The authors orient the reader into an ethnographically framed reading of the articles of the special issue, highlighting possibilities and tensions in moving the agenda of educational research into new – or at least alternative and less widely used – conceptions and methodologies for making sense of learning across contexts. The authors stress the importance of making transparent the logics-of-inquiry of any such efforts as a means of moving the field forward.

The articles cover a wide range of issues and challenges for education and learning in contemporary societies. Several implications can be drawn from this. One set of implications relate to the conception of formal education. Formal education has for decades been linked to specific institutions covering certain levels of education, as well as being structured in predictable and uniform ways through curricula content, classes of students and summative assessment procedures. The implications for policy makers, other stakeholders, as well as researchers are to redefine some of the basic characteristics of our education system. One specific implication is the further explorations of what defines a learning context in times of increased complexity and hybridity of technology-mediated settings creating more dynamic and relational environments than formal educational usually allow for. More flexible spatio-temporal dimensions of learning offer ways of reformulating the institutional structures of our education systems.

Another set of implications relate to the level of practices and how the research in this volume contributes to better understand evolving knowledge practices and learners across time and space configurations. Involvement in different knowledge practices is not a strictly linear process, but complex, dynamic and intertwined with people and objects. Working with content and different resources assembled beyond school open up new ways to work across settings and tasks. As such there is a need to capture the plurality of actions and knowledge resources and often taken for granted terminology like

authenticity and agency, without naïve oversimplifications of mapping learning as trajectories and 'journeys'. Of special importance is the need to understand the interrelationship between learning and identity as opportunities to engage learners in boundary crossing activities, as cognitive, socio-emotional and embodied experiences.

In sum, by introducing and critically analysing a set of various methodologies for researching learning across contexts, the studies demonstrate the value of local situated levels of analysis of learners' participation and sense making of both knowledge and themselves across artefacts, time-scales and institutional boundaries. The results of the studies illuminate the renegotiation of what is means to learn and to be a learner when operating in expanded settings of learning with digital technologies in and out of educational institutions and how these negotiations are imbued with materiality, varied knowledge(s), values and ideologies. Taken together, the articles of this special issue and the reflective commentary open up emerging avenues for educational research that is motivated to take a holistic and dynamic approach to understanding learning in contemporary connected worlds.

References

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